GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

PREPARATORY EXAMINATION

2023

MARKING GUIDELINES

MATHEMATICAL LITERACY (PAPER 2) (10602)

7 pages

CODES	EXPLANATION
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification/Reason/Explain
S	Simplification
RT/RD/RG	Reading from a table/graph/diagram/map/plan
F	Choosing the correct formula
SF	Correct substitution in a formula
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding-off, etc.
R	Rounding-off
NP	No penalty for rounding-off/omitting units

KEY TO TOPIC SYMBOL:

M = Measurement; MP = Maps, Plans and other representations; P = Probability

QUESTION 1

Q		Answer (AO full marks)	Explanation	Level
1.1	1.1.1	C ✓✓ **A**	2A correct answer (2)	M1
	1.1.2	B ✓✓ **A**	2A correct answer (2)	M1
	1.1.3	D ✓✓ **A**	2A correct answer (2)	M1
	1.1.4	A ✓✓ **A**	2A correct answer (2)	M1
1.2	1.2.1	A line drawn from the centre of the circle to the circumference of the circle.✓✓ **A**	2A correct answer (2)	M1
	1.2.2	15 cm × 2 ✓ **M** = 30 cm ✓ **A**	1M multiplying by 2 1A correct answer (2)	M1
	1.2.3	15 cm ÷ 100 ✓ **M** = 0,15 m ✓ **A**	1M dividing by 100 1A correct answer (2)	M1
	1.2.4	$\frac{66,929 \times 1\ m}{39,37}$ ✓ **MA** = 1,7 m ✓ **A**	1MA 1A correct answer (2)	M1
	1.2.5	**B** ✓✓ **A**	2A correct answer **Accept** **kg/m²** (2)	M1
1.3	1.3.1	7A ✓✓ **A**	2A correct answer (2)	MP1
	1.3.2	South West ✓✓ **A** **OR** SW ✓✓ **A**	**CA from 1.3.1** 2A correct answer (2)	MP1
	1.3.3	34 ✓✓ **A**	2A correct answer (2)	MP1
	1.3.4	12 ✓✓ **A**	2A correct answer **Accept 10** (2)	MP1
	1.3.5	NE/North East ✓✓ **A**	2A correct answer (2)	MP1
	1.3.6	✓**RT** 11: 34 ✓ **A**	**CA from 1.3.3** 1RT 1A correct order **Accept** **12:34** (2)	MP1
			[30]	

QUESTION 2

Q	Answer	Explanation	Level
2.1	Strip chart /Strip map✓✓ **A**	2A correct answer (2)	MP1
2.2	Humansdorp ✓✓ **A**	2A correct answer (2)	MP1
2.3	R330 ✓ **RT** R75 ✓ **RT**	1RT correct value 1RT correct value **Accept R328** (2)	MP1
2.4	779 – 458 ✓ **RT** = 321 km ✓ **CA** **OR** 321 km ✓✓ **RT**	1RT correct values 1CA correct answer 2RT correct answer (2)	MP2
2.5	08:25 – 05:30 ✓ **MA** = 2 hours and 55 min ✓ **A** = 2,917 h ✓ **C**	1MA 1A correct value 1C conversion to hours **AO Full marks** **Accept 2,92h** (3)	MP2/3
		CA from 2.4 and 2.5	
2.6	Average speed = $\frac{Distance}{Time}$ ✓ **M** = $\frac{321\ km}{2{,}917\ h}$ ✓ MA = 110,04 km/h ✓ **CA** ≈ 110 km/h ✓ **R**	1M subject of the formula 1MA numerator and denominator 1CA 1R rounding to the nearest whole number **NPU** (4)	MP3
2.7	**Travelling on National Roads** ✓ **RT** ✓ **RT** 46 + 51 + 394 ✓ **MA** = 491 km ✓ **CA** **OR** 46 + 51 + (779 – 385) = 491 km **Travelling on Regional Roads** ✓ **RT** ✓ **MA** ✓ **RT** 50 + 29 + 146 + 82 + (475 – 385) = 397 km ✓ **CA** **OR**	1RT reading correct values 1RT for 394 km 1MA for adding all the values 1CA answer 1RT reading correct values 1RT for 475 – 385 1MA for adding all the values 1CA answer	MP4

	50 + 29 + 146 + 82 + (394 – 304) = 397 km Travelling on regional roads is shorter than travelling on national roads. ✓ **J** ∴ Her statement is invalid. ✓ **O**	 1 J Justification 1O opinion (10)	
2.8	• Possible route with distances are shown. ✓✓ **O** **OR** • Step-by-step directions are given. **OR** • It shows the national and regional roads which may have less traffic.	2O for correct answer (2)	MP4
		[27]	

QUESTION 3

Q	Answer	Explanation	Level
3.1	1 m ✓✓ **A**	2A correct value (2)	M1
		CA from 3.1	
3.2	A = 1 m × 1,7 m ✓ **MA** = 1,7 m^2 ✓ **A** = 2 m^2 ✓ **R**	1MA 1A correct answer 1R correct rounding **NPU** (3)	M2
3.3	Height of drum = $\frac{160\ cm}{100}$ ✓ **C** = 1,6 m ✓ **A** Length of braai stand – height of drum ✓ **RT** ✓**MCA** = 1,7 m – 1,6 m = 0,1 m ✓ **A** ✓**CA** Overlapping material = $\frac{0,1\ m}{2}$✓ **MA** = 0,05 m	1C dividing by 100 1A correct answer 1RT for 1,7m 1MCA subtracting correct values 1A correct answer 1CA numerator 1MA dividing by 2 (7)	M3

3.4	Radius = $\frac{1\,m}{2}$ ✓ **M** = 0,5 m ✓ **A** Capacity = 3,142 × $0,5^2$ × 1,6 ✓ **SF** ✓ **CA** = 1,2568 m^3 ✓ **A** **OR** Capacity = 3,142 × 50^2 × 160 ✓ **SF** ✓ **CA** = 1 256 800 cm^3 ✓ **A**	**CA the height from 3.3** 1M dividing by 2 1A correct answer 1SF substituting correct values 1CA answer 1A correct unit **NPR** (5)	M2

		CA from 3.4	
3.5	Volume of braai stand = $\frac{1,2568}{2}$ ✓ **A** ✓ **M** = 0,6284 m^3 ✓ **A** Volume to be filled with concrete mix = $\frac{0,6284}{2}$ ✓**A** ✓**M** = 0,3142 m^3 ✓ **CA** **OR** Volume of braai stand = $\frac{1\,256\,800}{2}$ ✓**A** ✓**M** = 628 400 cm^3 ✓ **A** Volume to be filled with concrete mix = $\frac{628\,400}{2}$ ✓**A** ✓**M** = 314 200 cm^3 ✓ **CA**	1A numerator 1M dividing by 2 1A correct answer 1A numerator 1M dividing by 2 1CA answer **NPR** **NPU** (6)	M3
		CA from 3.5	
3.6	Volume of 1-wheel barrow = $\frac{1}{20}$ ✓ **MA** = 0,05 m^3 ✓ **A** Number of wheelbarrows = $\frac{0,3142}{0,05}$ ✓**A** ✓**A** = 6,284 ✓ **A** ≈ 7 ✓ **R** Cost = $\frac{R1\,800\times7}{20}$ ✓ **MA** = R630,00 ✓ **CA** ∴ It will be more than R300 ✓ **O**	1MA dividing 1 by 20 1A correct answer 1A numerator 1A denominator 1 A correct answer 1R correct rounding 1MA for multiplying and dividing 1CA answer 1O conclusion (9)	M4
		[32]	

QUESTION 4				
Q		**Answer**	**Explanation**	**Level**
4.1	4.1.1	Bar scale/Line scale ✓✓ **A**	2A correct answer (2)	MP1
	4.1.2	Mpumalanga ✓ **A** North West ✓ **A**	1A correct answer 1A correct answer (2)	MP1
	4.1.3	Map length = 5,1 cm ✓ **A** Bar length =1,1 cm ✓ **A** Actual distance = $\frac{5{,}1\ cm}{1{,}1\ cm}$ ✓ **MCA** × 15 km ✓ **MA** = 69,54 km ✓ **CA** ≈ 70 km ✓ **R**	1A map length 1A measured bar length meet 1MCA dividing correct values 1MA multiplying by 15 1CA answer 1R correct rounding **Accept:** **Map length [4,8 cm - 5,5 cm]** **Bar length [1 cm - 1,2 cm]** (6)	MP3

			CA from 4.1.3	
	4.1.4	Return trip = 70 km × 2 ✓ **MA** = 140 km ✓ **A** Number of litres = 0,086 ℓ/km × 140 km ✓ **MCA** = 12,04 ℓ ✓✓ **CA**	1MA multiplying distance by 2 1A correct answer 1MCA multiplying by 0,086 ℓ/km 2CA answer (5)	MP3
	4.1.5	Probability = $\frac{2}{6}$ ✓**A** = 33,33% ✓ **C**	1A numerator 1A denominator 1C conversion to % (3)	P2
4.2	4.2.1	9,84252 × 0,3048 ✓ **MA** = 3 m ✓ **A**	1MA multiplying correct values 1A correct answer (2)	M2
			CA from 4.2.1	
	4.2.2	4 × 3 m ✓ **M** = 12 m ✓ **A**	1M multiplying by 4 1A correct answer (2)	M2
	4.2.3	To prevent overflowing of water when people are swimming. ✓✓ **J** **OR** To avoid water spillage when swimming.	2J relevant reason **Accept any sensible reason** (2)	M4

	4.2.4	**Volume** refers to the total amount of space covered by water in the swimming pool holding water, ✓✓ **A** whereas **capacity** refers to the actual space in a swimming pool. ✓✓ **A** **OR** **Volume** is the space that is occupied by water in the swimming pool. **Capacity** refers to the amount of water needed to fill the swimming pool.	2A correct definition of **volume in context** 2A correct definition of **capacity in context** (4)	M2
			CA from 4.2.1	
	4.2.5	Area of backyard = 7 m × 5 m ✓ **SF** = 35 m^2 ✓ **A** Area of pool = 3 m × 3 m ✓ **SF** = 9 m^2 ✓ **A** Area that will not be paved = 35 m^2 – 9 m^2 ✓**M**✓**MCA** = 26 m^2 ✓ **CA**	1SF substituting the correct values 1A correct answer 1SF substituting the correct values 1A correct answer 1M concept of subtraction 1MCA two correct values 1CA (7)	M3
			[35]	

QUESTION 5

Q		Answer	Explanation	Level
5.1	5.1.1	Southbound ✓ **A** Pretoria comes before Rosebank in the Southbound. ✓ **J** **OR** Pretoria comes after Rosebank in the Northbound. ✓ **J**	1A correct answer 1J relevant reason (2)	M4
	5.1.2	07:18 ✓✓ **RT**	2RT correct value (2)	M2
	5.1.3	✓**M** 07:49 – 07:18 = 31 minutes + 10 minutes ✓ **MA** = 41 minutes ✓ **CA**	**CA from 5.1.2** 1M subtracting correct values 1MA adding walking time 1CA correct answer (3)	M2
	5.1.4	- It saves time, as it travels faster. ✓✓ **O** - No traffic delays. ✓✓ **O** **OR** - It is safe. ✓✓ **O** **OR** Any reasonable advantage	2O relevant opinion 2O relevant opinion (4)	M4
	5.1.5	°F = (1,8 × 30) + 32 ✓ **SF** = 86 °F ✓ **A**	1SF substituting temperature 1A correct answer **AO** (2)	M2
5.2	(i)	M ✓✓ **A**	2A correct answer (2)	P2
	(ii)	N ✓✓ **A**	2A correct answer (2)	P2
	(iii)	JF ✓✓ **A**	2A correct answer (2)	P2
5.3		Lengthwise = $\frac{126}{6}$ ✓ **MA** = 21 ✓ **A** Widthwise = $\frac{53}{6}$ = 8,83 ≈ 8 ✓ **A** Heightwise = $\frac{72}{12}$ = 6 ✓ **A** No. of tins = 21 × 8 × 6✓ **M** = 1 008 cans ✓ **CA** ∴ The claim is invalid. ✓ **J**	1MA dividing correct values 1A correct answer 1A correct answer 1A correct answer 1M multiplying values 1CA 1J justifying the answer (7)	MP4
			[26]	
			TOTAL: 150	